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10/577,619	01/25/2007	Dieter Lehmann	P29883	5407
7055 7590 11/16/2009 GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191				
EXAMINER				
BUE-HATCHER, NICOLE M				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
11/16/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com  
pto@gbpatent.com

# Office Action Summary

**Application No.**

10/577,619

**Applicant(s)**

LEHMANN ET AL.

**Examiner**

NICOLE M. BUIE-HATCHER

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 10-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SG/US)  
Paper No(s)/Mail Date 20090717
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

The amendment filed 07/17/2009 has been entered. Claims 1-20 remain pending. The previous 35 USC 112, second paragraph rejection of claim 9 over the limitation "other" is withdrawn in light of Applicants' response on page 13.

### ***Information Disclosure Statement***

The information disclosure statement filed 07/17/2009 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. There is no copy filed for either of the non-patent literature publications. The publication from Schierholz et al. has been attached to this Office Action.

### ***Specification***

The amendment filed 07/17/2009 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: since Applicants have not provided proof that the name of the polymers that was originally abbreviated is known, the names of the polymers present new matter.

Applicant is required to cancel the new matter in the reply to this Office Action.

***Claim Objections***

**Claims 1-20** are objected to because of the following informalities: the limitation “at least one of radiation-chemically and plasma-chemically modified polytetrafluoroethylene powder including a surface” is unclear. It is noted that Applicants assert that a radiation-chemically modified polytetrafluoroethylene powder or plasma-chemically modified polytetrafluoroethylene powder are two options (See page 13 of Applicants' response). Therefore, it is suggested to replace “and” at line 2 of claim 1 and at line 2 of claim 10 with “or”. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

**Claims 9 and 20** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Since Applicants have not provided proof that the name of the polymers that was originally abbreviated is known, the names of the polymers present new matter.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-7** are rejected under 35 U.S.C. 102(b) as being anticipated by Nishi et al. (JP 2002-338931 A, see machine translation for citation).

**Regarding claims 1, 3, and 6-7**, Nishi et al. discloses in claims 1-3 and [0026], [0032] a fluorine polymer particle, such as polytetrafluoroethylene polymer particle which is surface modified beyond its melting point with a sodium solution with ionizing radiation under the atmosphere of oxygen and crosslinking with a butadiene/styrene elastic adhesive [0029] after the modified PTFE particles are formed.

Regarding the method limitations of reactive conversion into melt, the examiner notes that even though a product-by-process is defined by the process steps by which the product is made, determination of patentability is based on the product itself. *In re Thorpe*, 777 F.2d 695, 227 USPQ 964 (Fed. Cir. 1985). As the court stated *in Thorpe*, 777 F.2d at 697, 227 USPQ at 966 (The patentability of a product does not depend on its method of production. *In re Pilkington*, 411 F. 2d 1345, 1348, 162 USPQ 145, 147 (CCPA 1969). If the product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process). See MPEP § 2113.

**Regarding claim 2**, Nishi et al. discloses a similar process to the instant claim, therefore it would be inherently true that the bonding site of at least one olefinically unsaturated polymer is randomly distributed on the polymer chain (claims 1-3).

**Regarding claims 4 and 5**, Nishi et al. discloses a polytetrafluoroethylene powder is radiation-chemically modified with a radiation dose of 1kGy-10MGy which anticipates the claimed ranges.

**Claims 1-9** are rejected under 35 U.S.C. 102(b) as being anticipated by Hamaoka (JP 62036431 A, see translation for citation).

**Regarding claims 1 and 3-9**, Hamaoka (Claim and P4, Application examples) discloses polytetrafluoroethylene fine powder and an elastomer (i.e. butadiene rubber, chloroprene rubber, styrene-butadiene rubber) wherein the composition is allowed to be oriented, then shaped, and irradiated from 1 kGy-1000 kGy (Calculation is based on 100 rad = 1 Gy). Hamaoka discloses the composition can be oriented by extrusion (P4, first full paragraph).

Regarding the method limitations, the examiner notes that even though a product-by-process is defined by the process steps by which the product is made, determination of patentability is based on the product itself. *In re Thorpe*, 777 F.2d 695, 227 USPQ 964 (Fed. Cir. 1985). As the court stated *in Thorpe*, 777 F.2d at 697, 227 USPQ at 966 (The patentability of a product does not depend on its method of production. *In re Pilkington*, 411 F. 2d 1345, 1348, 162 USPQ 145, 147 (CCPA 1969). If the product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process). See MPEP § 2113.

**Regarding claim 2**, Hamaoka (Claim) discloses a similar process to the instant claim, therefore a bonding site of the at least one olefinically unsaturated polymer with the surface is

randomly distributed on the polymer would be inherently present in the composition of Hamaoka.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

**Claims 1 and 3-7** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6 of copending Application No. 10/577305.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the corresponding claims recite a radically coupled polytetrafluoroethylene polymer. However, Appln '305 does not recite polymer chemically radically coupled on the surface via a reaction conversion into melt. Regarding the method limitations, the examiner

notes that even though a product-by-process is defined by the process steps by which the product is made, determination of patentability is based on the product itself. *In re Thorpe*, 777 F.2d 695, 227 USPQ 964 (Fed. Cir. 1985). As the court stated *in Thorpe*, 777 F.2d at 697, 227 USPQ at 966 (The patentability of a product does not depend on its method of production. *In re Pilkington*, 411 F. 2d 1345, 1348, 162 USPQ 145, 147 (CCPA 1969). If the product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process). See MPEP § 2113.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

**Claims 1 and 3** are directed to an invention not patentably distinct from claim 5 of commonly assigned 10/573005.

**Claims 1 and 3** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 5 of copending Application No. 10/573005. Although the conflicting claims are not identical, they are not patentably distinct from each other because the corresponding claims recite a radically couple polytetrafluoroethylene polymer. However, Appln '300 does not recite polymer chemically radically coupled on the surface via a reaction conversion into melt. Regarding the method limitations, the examiner notes that even though a product-by-process is defined by the process steps by which the product is made, determination of patentability is based on the product itself. *In re Thorpe*, 777 F.2d 695, 227 USPQ 964 (Fed. Cir. 1985). As the court stated *in Thorpe*, 777 F.2d at 697, 227 USPQ at 966 (The patentability of a product does not depend on its method of production. *In re Pilkington*, 411 F. 2d 1345, 1348, 162 USPQ 145, 147 (CCPA 1969). If the



product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process). See MPEP § 2113.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### *Response to Arguments*

Applicant's arguments filed 07/17/2009 have been fully considered but they are not persuasive. The following comments apply:

A) Applicants' argument that no radical coupling should occur between the fluororesin and the thermoplastic elastomers in JP '931 (pages 15 and 16) is not persuasive. According to Schierholz et al. Journal of Polymer Science, Part B: Polymer Physics, 1999, Volume 37, Issue 17, page 2406 (In Applicant's response the citation is to Part 8 and it should be Part B), Figure 2, for the PTFE powder previously irradiated, focusing on 330-340°C which is the temperature JP'931 melts the PTFE there appears to be a gradual degradation of the PTFE powder. On page 2407, oxygen-containing fragments as well as  $C_xF_y$  are found due to thermal degradation. Therefore, there must be radicals present after irradiation. Applicants assert that according to Figure 8b, hardly any radicals are still present at a temperature of 220°C, however this data is for PTFE which has been annealed prior to being irradiated. Therefore, a fair comparison cannot be made. Additionally, the results in Figure 8b is based on furnace annealed powder which was stored for 30 days, therefore it would be expected for the number of radicals to decrease or not be present. Furthermore, in view of evidence by Coates et al. (US 6,824,872), the irradiation

changes the surface chemistry of the fluoropolymer powder particles which are previously chemically treated so the surface of the particles are chemically reactive (C3/L63-C4/L9). Therefore, there would be radicals present on the surface of the powder to crosslink with the thermoplastic elastomers of JP '931.

B) Applicants' argument that the PTFE is not present as a powder when irradiated but in fiber form in JP'431 (page 16) is not persuasive. In JP '431, page 3, the uncalcined fine powder of polyethylene tetrafluoride has chemical-structural characteristics branching off in a state of microscopically fine fiber upon receiving stresses and orientation. Therefore, the fine powder is still present with fibers protruding from the surface.

C) Applicants' argument that the radical centers that may possibly form slightly after all will then not react with the matrix polymer under the conditions of JP'431 through steric screening and through the lack of thermal activation (page 17) is not persuasive. The whole composition is irradiated and therefore making it possible for the bonding between the elastomer matrix and fiber strong (page 4, third full paragraph).

D) Applicants' argument that the obvious double-patenting rejections do not provide an adequate basis for supporting a rejection (page 17) is not persuasive. Since the copending claims and instant claims are product by process, the rejection is based on the final product, not the process in which the products are made.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### *Correspondence*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NICOLE M. BUIE-HATCHER whose telephone number is (571)270-3879. The examiner can normally be reached on Monday-Thursday with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571)272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/  
Supervisory Patent Examiner, Art Unit 1796

/N. M. B./  
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10/30/2009